PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-112896
(43)Date of publication of application : 23.04.1999

(51)Int.Cl. H04N 5/44

(21)Application number : 09-274463
(22)Date of filing : 07.10.1997

(71)Applicant : HITACHI LTD
(72)Inventor : TANIKOSHI KOICHIRO
YAMATARI KIMIYA
FUKUDA YOSHIFUMI
TANIFUJI SHINYA

(54) DEVICE FOR RECEIVING BROADCASTING SIGNAL AND ITS METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To obtain information being different from that under monitor display through the use of a timing desired by a viewer by changing-over the image of an video broadcasting channel which is taken out by means of a first channel extracting part into the image of the video broadcasting channel which is taken out by means of a second channel extracting part.
SOLUTION: A program channel separating and decoding part 202 separates the program broadcasting signal of an optional program channel from a digital broadcasting signal which is received by a receiving part 201 so as to decode it into video informationa CM channel separating and decoding part 203 separates the CM broadcasting signal of an optional CM channel from the digital broadcasting signal so as to decode it into video information and a control channel separating part 205 separates a control channel from the digital broadcasting signal. Thena video source change-over part 206 changes-over video information to be outputted to a monitor device 3 into video information of the program broadcasting one recorded in a program broadcasting recording part 204 or the CM broadcasting one decoded by the CM channel separating and decoding part 203.

CLAIMS

[Claim(s)]
[Claim 1]A receive section which receives a broadcasting signal which has two or more channels for image broadcastingis a broadcasting signal receiving set outputted to a monitoring deviceand receives said broadcasting signalThe first and second channel extraction parts that take out an image of a channel for image

broadcasting according to a user's directions out of a broadcasting signal received in said receive sectionWhile outputting an image of a channel for image broadcasting taken out by said first channel extraction part to said monitoring deviceTo timing defined beforehandan image outputted to said monitoring device Predetermined timeA broadcasting signal receiving set provided with an output switching part changed from an image of a channel for image broadcasting taken out by said first channel extraction part to an image of a channel for image broadcasting taken out by said second channel extraction part.

[Claim 2]It has further the Records Department of ring buffer structure which records an image of a channel for image broadcasting which is the broadcasting signal receiving set according to claim 1and was taken out by said first channel extraction part one by oneA broadcasting signal receiving set which said output switching part is reading an image of a channel for image broadcasting taken out by said first channel extraction part from said Records Departmentand is characterized by outputting the image concerned to said monitoring device.

[Claim 3]Are the broadcasting signal receiving set according to claim 2and said broadcasting signalIt has two or more channels for image broadcasting which shift time and broadcast the same contents of broadcastA time gap with an image of a channel for image broadcasting currently recorded on said Records Department and an image of the channel for image broadcasting concerned read from said Records Department The channel for image broadcasting concernedWhen abbreviated-in agreement with a time gap with other channels for image broadcasting which are broadcasting the same contents of broadcast as the channel for image broadcasting concernedsaid first channel extraction part -- being concerned -- others -- a broadcasting signal receiving set having further a means to reset said Records Department while directing to take out a channel for image broadcasting.

[Claim 4]A broadcasting signal receiving set which receives a broadcasting signal which has two or more channels for image broadcastingand is outputted to a monitoring devicecomprising:

A receive section which receives said broadcasting signal.

The first and second channel extraction parts that take out an image of a channel for image broadcasting according to a user's directions out of a broadcasting signal received in said receive sectionWhile outputting an image of a channel for image broadcasting taken out by said first channel extraction part to said monitoring devicean output switching part changed to synthetic video of an image of each channel for image broadcasting which took out an image outputted to said monitoring device by the said first and second channel extraction parts from an image of a channel for image broadcasting taken out by predetermined time and said first channel extraction part to timing defined beforehand.

[Claim 5]Are the broadcasting signal receiving set according to claim 1 or 4and according to a user's directionsA broadcasting signal receiving set having further a setting-out means to set up a kind of image of a channel for image broadcasting

taken out by said timing defined beforehandsaid predetermined timeand said second channel extraction part.
[Claim 6]A broadcasting signal receiving set which is the broadcasting signal receiving set according to claim 5and is characterized by said setting-out means displaying an interactive screen for making a user input directions on said monitoring device.
[Claim 7]Are the broadcasting signal receiving set according to claim 5and said broadcasting signalIt is a thing containing a channel for control which information which shows contents of broadcast in said two or more channels for image broadcasting in each multiplexed by time sharingHave further the third channel extraction part that takes out information on a channel for control out of a broadcasting signal received in said receive sectionand said second channel extraction partA broadcasting signal receiving set specifying and extracting a channel for image broadcasting which is broadcasting an image according to a kind set up by said setting-out means from information on a channel for control taken out by said third channel extraction part.
[Claim 8]Are the broadcasting signal receiving set according to claim 5and said broadcasting signalIt is a thing containing a channel for control which information which shows an advancing state of contents of broadcast in said two or more channels for image broadcasting in each multiplexed by time sharingHave further the third channel extraction part that takes out information on a channel for control out of a broadcasting signal received in said receive sectionand said output switching partA broadcasting signal receiving set judging timing set up by said setting-out means from information about a channel for image broadcasting taken out by said first channel extraction part among information on a channel for control taken out by said third channel extraction part.
[Claim 9]It is the broadcasting signal receiving set according to claim 5and at least one of said two or more channels for image broadcasting is provided in order to broadcast an image for an advertisement / advertisement.
A broadcasting signal receiving setwherein said set part sets up a kind of image for an advertisement / advertisement according to a user's directions as a kind of image of a channel for image broadcasting taken out by said second channel extraction part.

[Claim 10]A broadcasting signal receiving set having established further a calculating means which computes a receiving discount of said broadcasting signal based on a kind of image for an advertisement / advertisement which is the broadcasting signal receiving set according to claim 9and was set up by said setting-out meansand display time of the image concerned.
[Claim 11]A receive section which is a broadcasting signal receiving set which receives a broadcasting signal and is outputted to a monitoring deviceand receives said broadcasting signalThe Records Department which has the ring buffer structure which records a broadcasting signal received in said receive section one by oneAccording to an input part which receives an input of a video signal from an

external instrumentand a user's directionsAn output switching part which changes an image outputted to said monitoring device to either of the video signals inputted into a broadcasting signal recorded on said Records Departmentand said input partWhen a preparation and said output switching part change an output of said monitoring device from a broadcasting signal recorded on said Records Department to a video signal inputted into said input partA broadcasting signal receiving set characterized by resuming read-out of said Records Department from said interrupted address when returning to a broadcasting signal recorded on said Records Department from a video signal which interrupted read-out from said Records Department of said broadcasting signaland into which an output of said monitoring device was inputted by said input part.
[Claim 12]Are the broadcasting signal receiving set according to claim 11and said broadcasting signalHave two or more channels for image broadcasting which shift time and broadcast the same contents of broadcastand said receive sectionIt is what receives a channel for image broadcasting according to a user's directions out of said broadcasting signalA time gap with an image of a channel for image broadcasting currently recorded on said Records Department and an image of the channel for image broadcasting concerned read from said Records Department The channel for image broadcasting concerneda case of being abbreviated-in agreement with a time gap with other channels for image broadcasting which are broadcasting the same contents of broadcast as the channel for image broadcasting concerned -- said receive section -- being concerned -- otherswhile directing to take out a channel for image broadcastingA broadcasting signal receiving set having further a means to reset said Records Department.
[Claim 13]A TV receiver comprising:
The broadcasting signal receiving set according to claim 1234567891011or 12.
A monitoring device.

[Claim 14]To timing which is a receiving method of a broadcasting signal which takes out an image of a channel for image broadcasting according to a user's directions out of a broadcasting signal which has two or more channels for image broadcastingand is outputted to a monitoring deviceand was defined beforehand. A receiving method of a broadcasting signal changing an image outputted to said monitoring device to predetermined time and other images.
[Claim 15]A receiving method of a broadcasting signalwherein it is a receiving method of the broadcasting signal according to claim 14 and an image besides the above is a channel for image broadcasting for an advertisement / advertisement contained in a broadcasting signal.
[Claim 16]A receiving method of a broadcasting signalwherein it is a receiving method of the broadcasting signal according to claim 14 and an image besides the above is a video signal from an external instrument.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to a terrestrial wavesatellite broadcasting or CATVand the broadcasting signal receiving set that receives broadcast from a broadcasting medium called the Internet.
[0002]
[Description of the Prior Art]In television broadcastingthe short image called what is called commercials aiming at an advertisement or advertisement is put between the midst before and after a programand is broadcast. In such a conventional Television Sub-Division broadcasting methodthere is a merit that CM can be compulsorily shown to a televiewerfor an advertiser. Howeverthis method will ** and force a televiewer the situation where program broadcast is interruptedby uninterested CM.
[0003]By the waydigital satellite broadcastingCATVetc. are spreading in recent years. In broadcast of this etc.it is possible to tune in a program (for example80 channels) to the extent that it does not become as compared with the conventional television broadcastingand that a televiewer pays a charge can also receive offer of program broadcast without CM (CM is not put between program broadcast).
[0004]Thusat digital satellite broadcasting or CATVthe televiewer can enjoy program broadcastwithout being interfered by CMcan add and can tune in a program to the extent that it does not become as compared with the conventional television broadcasting. For this reasonit is thought that the televiewer using digital satellite broadcasting or CATV will increase increasingly from now on. Thereforeit is necessary to develop [in / as an advertiser / these broadcasting media] effective CM activity.
[0005]Nowin broadcasting mediasuch as digital satellite broadcasting and CATVvarious trials which try to get a televiewer to look at CM spontaneously are made. For exampleat the so-called broadcasting station of the pay-per-view (Pay per View) system with which only the part which received pays a chargeCM is put into one side for the same program contentand there are some which are performing the trial which extracts and broadcasts CM in another side. And it is deriving so that I may get as many televiewers as possible to look at CM by setting up the subscription fee of the televiewer who chose broadcast with CM at a low price than the subscription fee of the televiewer who chose broadcast without CM.
[0006]
[Problem to be solved by the invention]Thusalso in broadcasting mediasuch as digital satellite broadcasting and CATValthough the trial which tries to get a televiewer to look at CM was madeit was the grade which a televiewer can choose in the case of which whether to put CM into program broadcast. For this reasonwhen a televiewer chose program broadcast with CMit was not able to view and listen to CM to the timing which the televiewer concerned desires.

[0007]While tuning in a certain program and displaying on the monitoring device in the conventional broadcasting signal receiving setfor exampleWhen a channel selection was changed to other programs and it returned to said a certain program after thatwhile having tuned in other programsthe scene of a climax will be broadcast in said a certain programand the scene concerned might be overlooked.
[0008]This invention is made in light of the above-mentioned circumstancesand the purpose of this invention is the timing which a televiewer desiresand there is in providing the broadcasting signal receiving set which can acquire the information under monitor displayand different information.
[0009]When a display is temporarily changed to other information while displaying a certain programit is in providing the broadcasting signal receiving set which can be viewed and listened to the scene broadcast in said a certain program during the change concerned.
[0010]
[Means for solving problem]In order to solve an aforementioned problemthe first mode of this invention is provided with the following.
The receive section which receives the broadcasting signal which has two or more channels for image broadcastingis a broadcasting signal receiving set outputted to a monitoring deviceand receives said broadcasting signal.
The first and second channel extraction parts that take out the image of the channel for image broadcasting according to a user's directions out of the broadcasting signal received in said receive section.
While outputting the image of the channel for image broadcasting taken out by said first channel extraction part to said monitoring deviceThe output switching part which changes the image outputted to said monitoring device to the timing defined beforehand to the image of the channel for image broadcasting taken out by said second channel extraction part from the image of the channel for image broadcasting taken out by predetermined time and said first channel extraction part.

[0011]The second mode is provided with the following.
The receive section which receives the broadcasting signal which has two or more channels for image broadcastingis a broadcasting signal receiving set outputted to a monitoring deviceand receives said broadcasting signal.
The first and second channel extraction parts that take out the image of the channel for image broadcasting according to a user's directions out of the broadcasting signal received in said receive section.
While outputting the image of the channel for image broadcasting taken out by said first channel extraction part to said monitoring devicethe output switching part changed to the synthetic video of the image of each channel for image broadcasting which took out the image outputted to said monitoring device by the said first and second channel extraction parts from the image of the channel for image broadcasting taken out by predetermined time and said first channel extraction part to the timing defined beforehand.

[0012]According to each of above-mentioned modesit is displayed in the form where the image of the channel for image broadcasting taken out by predetermined time and the second channel extraction part is put to the timing beforehand defined while displaying the image of the channel for image broadcasting taken out by the first channel extraction part.
[0013]Thereforeit becomes possible to acquire the information to desire to the timing which the user concerned desires by a user enabling it to set up the image broadcasting channel taken out by the second channel extraction partand said timing defined beforehand.
[0014]For exampleif it is set as an image broadcasting channel which takes out the channel concerned by the second channel extraction part when an image broadcasting channel which is broadcasting CM etc. specially is contained in a broadcasting signala user will become possible [acquiring CM information to timing to desire].
[0015]A receive section which the third mode of this invention is a broadcasting signal receiving set which receives a broadcasting signal and is outputted to a monitoring deviceand receives said broadcasting signalThe Records Department which has the ring buffer structure which records a broadcasting signal received in said receive section one by oneAccording to an input part which receives an input of a video signal from an external instrumentand a user's directionsAn output switching part which changes an image outputted to said monitoring device to either of the video signals inputted into a broadcasting signal recorded on said Records Departmentand said input partWhen a preparation and said output switching part change an output of said monitoring device from a broadcasting signal recorded on said Records Department to a video signal inputted into said input partRead-out from said Records Department of said broadcasting signal is interruptedand when returning to a broadcasting signal recorded on said Records Department from a video signal into which an output of said monitoring device was inputted by said input partread-out of said Records Department is resumed from said interrupted address.
[0016]According to the third mode of this inventionthe aforementioned composition enables it to view and listen to the broadcasting signal received in the receive sectionwhile displaying the video signal of an external instrument.
[0017]
[Mode for carrying out the invention]Belowa first embodiment of this invention is described.
[0018]Drawing 1 is an outline block diagram of the digital-satellite-broadcasting system by which a first embodiment of this invention was applied.
[0019]The monitoring device which displays the video information which the broadcasting station where 1 transmits a digital broadcasting signaland 2 received with the digital broadcasting signal receiving set hereand 3 received with the digital broadcasting signal receiving setand 4 are satellites which receive the digital broadcasting signal from a broadcasting stationand broadcast it broadly.

[0020]The channel (a program channel is called hereafter) of the plurality [digital broadcasting signal / which the broadcasting station 1 broadcasts] for program broadcastsTwo or more channels for CM broadcasting (a CM channel is called hereafter)the channel for contents-of-broadcast code broadcast (a control channel is called hereafter) which includes contents informationa broadcast situationetc. under broadcast by each program channel and each CM channel -- Time Division Multiplexing -- or -- frequency multiplexing -- it is-izing and constituted.
[0021]An example when two or more program channelstwo or more CM channelsand a control channel are frequency-multiplexing-ized is shown in drawing 2.
[0022]Herethe channels 1-3 are a channel for program broadcastsand a channel for CM broadcasting in the channels 4 and 5. Information on contents of broadcast to which each channel 1-5 top is transmitted is coded respectively.
[0023]In a control channela contents-of-broadcast code which includes contents informationa broadcast situationetc. under televising on each channel 1-5 has multiplexed by time sharing.
[0024]An example of structure of a contents-of-broadcast code is shown in drawing 3.
[0025]A contents-of-broadcast code shown in drawing 3 comprises 3 bytes. The 1st byte is a content code which shows a genre and a title of contents of broadcast under present televising by a corresponding channel. For examplein the case of a program channelin the case of a code "001" and amusementwhen contents of broadcast are reportsin the case of a code "002" and documentaryas it was called a code "003"a code according to contents of broadcast describes.
[0026]In the case of a CM channelin the case of CM concerning [a case of CM concerning / contents of broadcast / foodstuffs] a code "201" and a storein the case of CM about a code "202"and entertainments and musicas it was called a code "101"a code according to contents of broadcast describes.
[0027]It is a state code which shows whether contents of broadcast under present televising are in a state of a broadcast start by a corresponding channelthe 2nd byte is in a state of an end of broadcastor it is in a state under broadcast. For examplein the case of a broadcast starta code "001" and when it is under broadcastin "002" and an end of broadcasta code called a code "003" describes.
[0028]The 3rd byte is a progression code which shows an advancing state of contents of broadcast under present televising by a corresponding channel. When a state code is broadcastinga percentage value of that advancing state describes this code. For examplewhen an advancing state of contents of broadcast is 10% of the wholea code "010" describes.
[0029]The digital broadcasting signal receiving set 2 receives a digital broadcasting signal transmitted from the broadcasting station 1 via the satellite 4separates and decrypts a required channel out of itand is made to display it on the monitoring device 3.
[0030]Drawing 4 is an outline configuration block figure of the digital broadcasting

receiving set 2 shown in drawing 1.
[0031]A receive section and 202 here 201 Program channel separation and a decoding sectionCM channel separation and a decoding sectionand 204 203 The program broadcast Records DepartmentAs for a program tuning part and 208a control channel separation part and 206 are [user's operation input partssuch as a remote controland 210] change condition-monitoring parts CM receiving pattern setting part and 209 an image-source switch part and 207 205.
[0032]The receive section 201 receives a digital broadcasting signal transmitted from the broadcasting station 1 via the satellite 4.
[0033]Program channel separation and the decoding section 202 separate a program broadcast signal of arbitrary program channels from a digital broadcasting signal received in the receive section 201and decrypts it to video information.
[0034]CM channel separation and the decoding section 203 separate a CM broadcasting signal of arbitrary CM channels from a digital broadcasting signal received in the receive section 201and decrypts it to video information.
[0035]The program broadcast Records Department 204 records video information of program broadcast decrypted by program channel separation and the decoding section 202. Hereif predetermined time is exceededwhat has structure which is overwritten by information that recorded video information is newfor examplering buffer structure where it is used with the Information Storage Division technologywill be used for the program broadcast Records Department 204. Even when a time gap is between actual program broadcast (program broadcast included in a digital broadcasting signal received in the receive section 201)and program broadcast currently displayed on the monitoring device 3 by adopting such a structureit cannot break off and program broadcast can be outputted to the monitoring device 3.
[0036]The control channel separation part 205 separates a control channel from a digital broadcasting signal received in the receive section 201.
[0037]The image-source switch part 206 changes video information outputted to the monitoring device 3 to either one of video information of program broadcast recorded on the program broadcast Records Department 204and video information of CM broadcasting decrypted by CM channel separation and the decoding section 203.
[0038]The program tuning part 207 chooses a program channel separated and decrypted by program channel separation and the decoding section 202 according to a user's directions inputted into the user's operation input part 209.
[0039]The CM receiving pattern setting part 208 sets up a genre of CM broadcasting displayed on the monitoring device 3display timing1 time of CM display timeetc. according to a user's directions inputted into the user's operation input part 209. Setting out of CM receiving pattern is interactively performed via the monitoring device 3.
[0040]The change condition-monitoring part 210 chooses a CM channel separated and decrypted by CM channel separation and the decoding section 203 according to a genre of CM set up by the CM receiving pattern setting part 208. According

to display timing and CM display time of CM which were similarly set up by the CM receiving pattern setting part 208change directions of video information outputted to the monitoring device 3 are outputted to the image-source switch part 206.
[0041]As mentioned aboveon a control channela contents-of-broadcast code which includes contents informationa broadcast situationetc. under broadcast by each program channel and each CM channel is broadcast. Thereforedisplay timing of a CM channel corresponding to a genre of CM set up by the CM receiving pattern setting part 208 or CM can be specified by referring to a contents-of-broadcast code of a control channel separated by the control channel separation part 205.
[0042]The user's operation input part 209 is provided with a key for changing a channel selection key of a program channeland the monitoring device 3 to setting-out mode of CM receiving patterna Control keyetc.and is constituted.
[0043]Drawing 5 is a figure showing an example of a user's operation input part.
[0044]A mode switching key for a channel selection key for program channel selection and 209b to change the monitoring device 3 to setting-out mode of CM receiving pattern hereas for 209a209c and 209d are a Control key for performing setting out of CM receiving pattern interactively via the monitoring device 3and a decision key.
[0045]Nextsetting-operation of CM receiving pattern in a digital broadcasting signal receiving set shown in drawing 4 is explained.
[0046]In drawing 5if the mode switching key 209b is pressedthe CM receiving pattern setting part 208 will display an interactive screen for setting out of CM receiving pattern on a display screen of the monitoring device 3 via the image-source switch part 206.
[0047]Drawing 6 thru/or drawing 8 are the figures showing an example of an interactive screen for setting out of CM receiving patternIt is an interactive screen for an interactive screen for setting up a genre of CM as which drawing 7 displays an interactive screen for drawing 6 to set up display timing and display time of CMand setting up by what kind of pattern drawing 8 chooses a genre of CM into 1 time of CM display time.
[0048]The CM receiving pattern setting part 208 can change the interactive screen displayed on the monitoring device 3 according to a user's directions inputted via Control key 209c and 209 d of decision keys to either of the interactive screens shown in drawing 6 thru/or drawing 8.
[0049]When the interactive screen shown in drawing 6 is displayed on the display screen of the monitoring device 3the user can set up the display timing and display time of CM using Control key 209c and 209 d of decision keys.
[0050]The item "timing" 301 for the interactive screen shown in drawing 6 to set up the display timing of CMThe item "duration" 302 for setting up 1 time of CM display timethe item "O.K." 303 which determines the item set up in this interactive screenthe item "Cancel" 304 which cancels the item set up in this interactive screenand **** and others Selection of each item can be performed by operating Control key 209c and 209 d of decision keys.

[0051]The user can choose any one of item "fixed" 305 and item "change" 306 from the items "timing" 301. Item "immobilization" When 305 is chosenthe CM receiving pattern setting part 208 sets up the display timing of CM for the time displayed on the frame 307 as an interval period between CM displays with CM display. Time to display on the frame 307 is changeable by moving the setting-out knob 308 using Control key 209c and 209 d of decision keys.
[0052]When item "change" 306 are chosena userusing Control key 209c and 209 d of decision keys -- item "introduction concentration" 309310 "are concentrated at the end"and an item -- "-- on the way -- it can be alike and any one can be chosen from concentration"311 and item "random" 312. [item]
[0053]The CM receiving pattern setting part 208 is set as the timing according to the advancing state the selected items 309-312 indicate the display timing of CM to be about the program broadcast currently displayed on the monitoring device 3.
[0054]When 309 "are concentrated first" are chosenspecificallythe display timing of CM is set up at the time of the start of the contents of broadcast of the program channel displayed on the monitoring device 3 display CM broadcasting intensively. [item]
[0055]When 310 "are finally concentrated" are chosenthe display timing of CM is set up at the time of the end of the contents of broadcast of the program channel displayed on the monitoring device 3 display CM broadcasting intensively. [item]
[0056]When 311 "are concentrated on the way" are chosenthe display timing of CM is set up in the middle of broadcast of the contents of broadcast of the program channel displayed on the monitoring device 3 display CM broadcasting intensively. [item]
[0057]Item "random" When 312 is chosendisplay timing of CM is set up distribute some places of contents of broadcast of a program channel displayed on the monitoring device 3and display CM broadcasting.
[0058]The number of times which displays CM while displaying one contents of broadcast may be defined beforehandor it may be made to make a user set it up via the user's operation input part 209.
[0059]The user can choose any one of item "fixed" 313 and item "random" 314 from the items "duration" 302.
[0060]Item "immobilization" When 313 is chosenthe CM receiving pattern setting part 208 sets up time displayed on the frame 315 as 1 time of CM display time. Time to display on the frame 315 is changeable by moving the setting-out knob 316 using Control key 209c and 209 d of decision keys.
[0061]When item "random" 314 are chosenthe CM receiving pattern setting part 208 sets 1 time of CM display time as a degree of CM display at random.
[0062]By drawing 63 minutes shows an example set uprespectively as CM display timing as interval period 20 minutes of CM display and CM displayand 1 time of CM display time.
[0063]When an interactive screen shown in drawing 7 is displayed on a display screen of the monitoring device 3the user can set up a genre of CM displayed on the monitoring device 3 using Control key 209c and 209 d of decision keys.

[0064]Two or more items 321 which showed a genre of CM are displayed on an interactive screen shown in drawing 7. The user can choose an item of one or more genres from two or more items 321. When there is no favorite genre into an item currently displayedit is operating the page turning-over button 322and it is also possible to display two or more items another genres were indicated to be on a screen.
[0065]The CM receiving pattern setting part 208 sets up a genre which the selected item 321 shows as a genre of CM. Drawing 7 shows an example to which "entertainments and music"a "store"and "foodstuffs" were set as a genre of CM.
[0066]When the interactive screen shown in drawing 8 is displayed on the display screen of the monitoring device 3the user can set up by what kind of pattern CM genre is chosen into 1 time of CM display time using Control key 209c and 209 d of decision keys. Howeverin the interactive screen shown in drawing 7setting out here is effectiveonly when two or more genres are chosen.
[0067]The interactive screen shown in drawing 8 becomes by item "genre" 331item "related genre" 332and item "mix" 333. The user can choose any one item from each items.
[0068]Item "the genre" When 331 is chosenthe CM receiving pattern setting part 208 is set up continue displaying the CM broadcasting of the same genre into 1 time of CM display time. In this caseit sets up in the following CM display time display CM of a different genre.
[0069]Item "related genre" When 332 is chosenthe CM receiving pattern setting part 208 is set up continue and display the CM broadcasting of two or more related genres into 1 time of CM display time.
[0070]Item a "mix" When 333 is chosenthe CM receiving pattern setting part 208 is set up display at random the CM broadcasting of two or more genres selected into 1 time of CM display time in the interactive screen shown in drawing 7.
[0071]Drawing 8 shows the example to which "the genre" was set as a selection pattern of CM.
[0072]The item of the interactive screen shown in drawing 6 thru/or drawing 8 is profile-ized according to a time zonea day of the weeka seasona useretc.and it may be made to change it automatically.
[0073]Nextit sets up about operation of the digital broadcasting signal receiving set shown in drawing 4.
[0074]Drawing 9 is a flow chart showing operation of the digital broadcasting receiving set shown in drawing 4. The CM receiving pattern setting part's 208 setting out of the genre of the CM broadcasting displayed on the monitoring device 3display timingand 1 time of CM display time will start this flow.
[0075]Firstthe image-source switch part 206 begins to read video information currently recorded on the program broadcast Records Department 204 one by oneand outputs it to the monitoring device 3 (Step 1001). Therebyit tunes in in the program tuning part 207and contents of broadcast of a program channel separated and decrypted from a digital broadcasting signal by program channel separation and the decoding section 202 are displayed on the monitoring device 3.

[0076]As mentioned abovecontents of broadcast of a program channel separated and decrypted from a digital broadcasting signal are always written in the program broadcast Records Department 204 by program channel separation and the decoding section 202.
[0077]Nextit is judged whether the change condition-monitoring part 210 became the display timing of CM broadcasting set up by the CM receiving pattern setting part 208 (Step 1002). For examplewhen display timing is set up in an interval period between CM displays with CM displaythe change condition-monitoring part 210Lapsed time after a CM broadcasting display to the monitoring device 3 performed immediately before is completedor after a power supply of this receiving set was switched on is measuredand when it reaches during [when this lapsed time was set up] the intervalit is judged that it became the display timing of CM broadcasting.
[0078]When display timing is set up for exampleaccording to an advancing state of contents of broadcast of a program channel currently displayed on the monitoring device 3the change condition-monitoring part 210. Are contained in a control channel separated by the control channel separation part 205. A contents-of-broadcast code corresponding to a program channel of contents of broadcast currently displayed on the monitoring device 3 is acquiredWhen an advancing state of contents of broadcast specified by a status code and/or a progression code of the contents-of-broadcast code concerned turns into said set-up advancing stateit is judged that it became the display timing of CM broadcasting.
[0079]When it is judged at Step 1002 that it became CM display timingthe change condition-monitoring part 210 interrupts information read-out from the program broadcast record 204 (Step 1003).
[0080]NextCM according to a genre which set up the change condition-monitoring part 210 by the CM receiving pattern setting part 208 (when there are two or more set-up genres) Directions are taken out to CM channel separation and the decoding section 203 so that a CM channel which is broadcasting selection for one of them may be separated and decrypted from a digital broadcasting signal. Directions are issued so that video information outputted to the monitoring device 3 may be changed from information recorded on the program broadcast Records Department 204 to information from CM channel separation and the decoding section 203 to the image-source switch part 206. This changes video information displayed on the monitoring device 3 to CM broadcasting from program broadcast (Step 1004).
[0081]The change condition-monitoring part 210 a CM channel which is broadcasting CM according to a genre set up by the CM receiving pattern setting part 208It specifies by investigating a content code of a contents-of-broadcast code corresponding to a CM channel among contents-of-broadcast codes contained in a control channel separated by the control channel separation part 205.
[0082]For examplewhen the genres set up by the CM receiving pattern setting part 208 are "foodstuffs"a content code searches the code (it will be a code

"201" if it says in the above-mentioned example) corresponding to "foodstuffs" out of the contents-of-broadcast code of each CM channel. And the CM channel corresponding to the contents-of-broadcast code which has the code concerned is set as the CM channel separated and decrypted by CM channel separation and the decoding section 203.

[0083]Nextthe change condition-monitoring part 210 measures the time after the output to the monitoring device 3 changes to CM broadcastingand judges whether the time concerned went through CM display time set up by the CM receiving pattern setting part 208 (Step 1005).

[0084]When not having gone through CM display timethe change condition-monitoring part 210 investigates the advancing state of the CM concerned from the contents-of-broadcast code of CM channel present on display included in the control channel separated by the control channel separation 205. And the CM concerned judges whether broadcast was completed or not (Step 1006). When not having endedit returns to Step 1005. When it endsaccording to the selection pattern of the genre of CMand a genre set up by the CM receiving pattern setting part 208Nextthe CM channel which is broadcasting CM which should be displayed is detectedand directions are taken out to CM channel separation and.the decoding section 203 so that the CM channel concerned may be separated and decrypted from a digital broadcasting signal (Step 1007). Thenit returns to Step 1005.

[0085]In the interactive screen shown in drawing 7when one genre of CM is chosen and it isthe CM channel which is broadcasting CM of the genre concerned is detectedand specificallydirections are taken out to CM channel separation and the decoding section 203 so that the CM channel concerned may be separated and decrypted from a digital broadcasting signal.

[0086]When the genre of CM is chosen two or more and is in the interactive screen shown in drawing 7it carries out as follows.

[0087]** When item "genre" 331 are chosen in the interactive screen shown in drawing 8The CM channel which is broadcasting CM of the same genre as the genre selected at Step 1004 is detectedand directions are taken out to CM channel separation and the decoding section 203 so that the CM channel concerned may be separated and decrypted from a digital broadcasting signal.

[0088]** When item "related genre" 332 are chosen in an interactive screen shown in drawing 8A CM channel which is broadcasting CM of a genre relevant to a genre selected from said two or more genres at Step 1004 is detectedand directions are taken out to CM channel separation and the decoding section 203 so that the CM channel concerned may be separated and decrypted from a digital broadcasting signal.

[0089]May be made to perform detection of a related genre by changing the relevance of each genre of CM and making the condition-monitoring part 210 memorizeandOr a code which shows a group to whom a genre belongs to a content code of a contents-of-broadcast code is addedand it may be made to carry out by investigating this.

[0090]** When item "mix" 333 are chosen in an interactive screen shown in drawing 8A genre is chosen at random out of said two or more genresa CM channel which is broadcasting CM of the genre concerned is detectedand directions are taken out to CM channel separation and the decoding section 203 so that this CM channel may be separated and decrypted from a digital broadcasting signal.
[0091]When it is judged that the time after the output to the monitoring device 3 changes to CM broadcasting went through CM display time set up by the CM receiving pattern setting part 208 in Step 1005The change condition-monitoring part 210 resumes read-out of the information recorded on the program broadcast Records Department 204 from the address which interrupted read-out for Step 1003 (Step 1008).
[0092]Thusthe contents of the program broadcast which should be displayed on the monitoring device 3 can be prevented from being missing on the way by resuming read-out from the address with which read-out was interrupted. When new information is already written in the address with which read-out was interruptedit is made to resume read-out from the oldest information among the information recorded on the program broadcast Records Department 204. By doing in this waythe missing part of the contents of the program broadcast which should be displayed on the monitoring device 3 can be made small.
[0093]The time gap with actual program broadcast (program broadcast included in the digital broadcasting signal received in the receive section 201) and the program broadcast currently displayed on the monitoring device 3 can be adjusted using the Near technology on demand.
[0094]For exampleit is assumed that the broadcasting station 1 shifts time and is broadcasting the same contents of broadcast by two or more program channels.The time gap with program broadcast (program broadcast included in the digital broadcasting signal received in the receive section 201) actual in the change condition-monitoring part 210 and the program broadcast currently displayed on the monitoring device 3 is made to measure. And when the gap concerned is in agreement with the time gap with the program channel (referred to as B) which is broadcasting the same contents as the received program channel (referred to as A)and A channelwhile resetting the program broadcast Records Department 204Directions are taken out to the program tuning part 207 so that a channel selection may be changed from A channel to B channel.
[0095]By doing in this waya time gap with actual program broadcast and program broadcast currently displayed on the monitoring device 3 can be adjusted.
[0096]After processing at Step 1008the change condition-monitoring part 210Directions are issued so that video information outputted to the monitoring device 3 may be changed from information outputted from CM channel separation and the decoding section 203 to information recorded on the program broadcast Records Department 204 to the image-source switch part 206. This changes video information displayed on the monitoring device 3 to CM broadcasting from program broadcast (Step 1009).

[0097]According to a first embodiment of this inventionaccording to a genre of CM which a user set updisplay timingetc.a display screen of the monitoring device 3 is changed from program broadcast to CM broadcasting. For this reasonthe user can display CM of a favorite genre on a monitoring device to favorite timing. For an advertiser of CMsince CM can be shown to self CM to an interested userit can advertise efficiently.

[0098]After separating and decrypting a program channel by program channel separation and the decoding section 202he is trying to record on the program broadcast Records Department 204 which has ring buffer structure in this embodiment. Howeverthis invention is not limited to this. It may be made to decryptwhen recording on the program broadcast Records Department 204 and reading from the Records Department 204 concernedwithout decrypting a separated program channel.

[0099]The program broadcast Records Department 204 is omitted and it may be made to input into the image-source switch part 206 directly the information which separated and decrypted the program channel by program channel separation and the decoding section 202.

[0100]At this embodimentit has detected by referring to the contents-of-broadcast code of each CM channel contained in a control channel in the CM channel which is broadcasting CM of the genre set up by the CM receiving pattern setting part 208 in the change condition-monitoring part 210. Howeverthis invention is not limited to this. For examplewhen two or more CM channels are prepared for every genreeven memory is with **** Lycium chinense at the change condition-monitoring part 210 about the correspondence relation of two or more CM channels with each and genresand it is possible to detect the CM channel which is broadcasting CM of a desired genre.

[0101]Since time may get mixed upsome broadcasts of CM provide the memory which stores in CM channel separation and the decoding section 203 the information separated and decryptedIt may enable it to provide a CM video image flatly by reading from the information on the portion of the head of CM one by one among the information stored in the memory on the occasion of CM display to the monitoring device 3.

[0102]This embodiment explained what can set up the display timing and the genre of CM by the CM receiving pattern setting part 208. Howeverthis invention is not limited to this. When the broadcasting station 1 replaces with a CM channel or it has a channel of information broadcast of a weather reporttraffic informationetc. in addition to a CM channelit may enable it to set up the display timing and the genres (kind) of informationsuch as this.

[0103]Although this embodiment explained the case where this invention was applied to digital satellite broadcastingthis invention is applicable also like broadcast of CATVa terrestrial waveetc.

[0104]These may be unifiedalthough it added and the digital broadcasting receiving set 2 and the monitoring device 3 are formed separately independently in this embodiment.

[0105]Nexta second embodiment of this invention is described.
[0106]Since the composition of the digital-satellite-broadcasting system and digital broadcasting signal with which this embodiment was applied is the same as that of the thing of a first embodiment shown in drawing 1it omits the detailed explanation and explains only a digital broadcasting receiving set here.
[0107]Drawing 10 is an outline configuration block figure of the digital broadcasting receiving set 2a used for a second embodiment of this invention.
[0108]The digital broadcasting receiving set 2a of this embodiment a different point from the digital broadcasting receiving set 2 of a first embodiment shown in drawing 4As shown in drawing 10it is having changed to the image-source switch part 206having replaced with the condition-monitoring part 210and having formed the image compositing section 221 and the synthetic condition-monitoring part 222respectivelyand having omitted the program broadcast Records Department 204.
[0109]The video information of the program channel which separated and decrypted the image compositing section 221 from the digital broadcasting signal by program channel separation and the decoding section 202The video information of the CM channel separated and decrypted from the digital broadcasting signal by CM channel separation and the decoding section 203 is compoundedand is outputted to the monitoring device 3.
[0110]For exampletwo video information is compounded so that a display screen of the monitoring device 3 may be divided into twovideo information of a program channel may be displayed on one side and video information of a CM channel may be displayed on another side.
[0111]By what a frame is provided in a display screen of the monitoring device 3video information of a program channel is displayed on a display screenfor exampleand video information of a CM channel is displayed within the limit for. Two video information is compounded so that video information of a CM channel may be displayed on video information of a program channel in piles.
[0112]When contents of broadcast of a CM channel comprise only textit may compound so that CM may be passed as a telop.
[0113]The synthetic condition-monitoring part 222 chooses a CM channel separated and decrypted by CM channel separation and the decoding section 203 according to a genre of CM set up by the CM receiving pattern setting part 208. According to display timing and CM display time of CM which were similarly set up by the CM receiving pattern setting part 208synthesizing instruction of video information outputted to the monitoring device 3 is outputted to the image compositing section 221.
[0114]Nextoperation of the digital broadcasting signal receiving set 2a shown in drawing 10 is explained.
[0115]Drawing 11 is a flow chart for explaining operation of the digital broadcasting signal receiving set 2a shown in drawing 10.
[0116]This flow will be started if the genre of the CM broadcasting displayed on the monitoring device 3display timingand 1 time of CM display time are set up by

the CM receiving pattern setting part 208 like the flow shown in drawing 9.
[0117]Firstthe image compositing section 221 outputs the information on the program channel which are program channel separation and the decoding section 202and was separated and decrypted from the digital broadcasting signal to the monitoring device 3 (Step 1101). Therebythe contents of broadcast of the program channel tuned in in the program tuning part 207 are displayed on the monitoring device 3.
[0118]Nextit is judged whether the synthetic condition-monitoring part 222 became the display timing of the CM broadcasting set up by the CM receiving pattern setting part 208 (Step 1102). This judging method is the same as that of the thing of a first embodiment. When it is judged that it became CM display timingthe synthetic condition-monitoring part 222CM according to the genre set up by the CM receiving pattern setting part 208 (when there are two or more set-up genres) Directions are taken out to CM channel separation and the decoding section 203 so that the CM channel which is broadcasting selection for one of them may be separated and decrypted from a digital broadcasting signal (Step 1103). The search method of the CM channel which is broadcasting CM according to the genre set up by the CM receiving pattern setting part 208 is the same as that of the thing of a first embodiment.
[0119]Nextthe video information of the program channel which separated and decrypted the synthetic condition-monitoring part 222 from the digital broadcasting signal by program channel separation and the decoding section 202 to the image compositing section 221It directs to compound the video information of the CM channel separated and decrypted from the digital broadcasting signal by CM channel separation and the decoding section 203and to output it to the monitoring device 3 (Step 1104). Therebyboth program broadcast and CM broadcasting are displayed on the monitoring device 3.
[0120]Nextthe synthetic condition-monitoring part 222 measures the time after the output to the monitoring device 3 changes to the synthetic video of program broadcast and CM broadcastingand judges whether the time concerned went through CM display time set up by the CM receiving pattern setting part 208 (Step 1105).
[0121]When not having gone through CM display timethe change condition-monitoring part 210 investigates the advancing state of the CM concerned from the contents-of-broadcast code of CM channel present on display included in the control channel separated by the control channel separation 205. And the CM concerned judges whether broadcast was completed or not (Step 1106). When not having endedit returns to Step 1105. When it endsaccording to the selection pattern of the genre of CMand a genre set up by the CM receiving pattern setting part 208Nextthe CM channel which is broadcasting CM which should be displayed is detectedand directions are taken out to CM channel separation and the decoding section 203 so that the CM channel concerned may be separated and decrypted from a digital broadcasting signal (Step 1107). Thenit returns to Step 1105.

[0122]When it is judged that the time after the output to the monitoring device 3 changes to the synthetic video of program broadcast and CM broadcastingon the other handwent through CM display time set up by the CM receiving pattern setting part 208 in Step 1105The synthetic condition-monitoring part 222 issues directions so that the video information outputted to the monitoring device 3 may be changed from the synthetic video of program broadcast and CM broadcasting to the image of only program broadcast to the image compositing section 221. Therebythe image of only program broadcast is displayed on the monitoring device 3 (Step 1108).
[0123]According to a second embodiment of this inventionthe user can watch program broadcast continuouslywithout being interrupted by CM broadcasting.
[0124]Nexta third embodiment of this invention is described.
[0125]This embodiment tells a broadcasting station or other control centers about a result of CM which a digital broadcasting receiving set received.
[0126]Drawing 12 is the outline configuration block figure of digital broadcasting receiving set 2b where a third embodiment of this invention was applied. In drawing 12the same mark is given to what has the same function as a digital broadcasting receiving set of a first embodiment shown in drawing 4.
[0127]Herealthough the case where this embodiment is applied to the receiving set of a first embodiment shown in drawing 4 is explainedin a second embodiment of this inventionit is applicable similarly.
[0128]The point that digital broadcasting receiving set 2b of this embodiment differs from the digital broadcasting receiving set 2 of a first embodiment shown in drawing 4 is having formed CM viewing-and-listening result Records Department 231 and the viewing-and-listening result output part 232as shown in drawing 12.
[0129]CM viewing-and-listening result Records Department 231 records the accumulated time of the CM broadcasting outputted to the monitoring device 3and its kind as a televiewer result.
[0130]Specificallythe time when the display to the monitoring device 3 of program broadcast was started is recorded first. Nextthe output to the monitoring device 3 acquires the time (start time) which changed from program broadcast to CM broadcastingand the content code of CM outputted to the monitoring device 3 from the change condition-monitoring part 210and records them. And when CM outputted to the monitoring device 3 changes to following CMthe time and the content code of new CM are changedand it acquires from the condition-monitoring part 210and records.
[0131]This operation is performed until the display to the monitoring device 3 changes from CM broadcasting to program broadcast. And the time (finish time) which changed to program broadcast is changedand it acquires from the condition-monitoring part 210and records.
[0132]Finallythe time which finished the output to the monitoring device 3 of program broadcast is recorded.
[0133]The viewing-and-listening result output part 232 takes out the information accumulated in CM viewing-and-listening result Records Department 231 within a

certain fixed time (for exampleone month)and outputs it to the exterior. This information can be sent to a broadcasting station or other control centersfor example using a telephone line etc.
[0134]In a broadcasting station or other control centersfrequency and a kind of CM display which transmitted the information concerned can be known using this information. [receiving set] That isthis information serves as marketing data useful for a company which passes CM.
[0135]Since liking of a user of a receiving set who transmitted the information concerned etc. are enabled to grasp from this informationit becomes possible to publish a coupon of goods suitable for an ideaetc. to the user concerned.
[0136]moreover -- receiving the users of each of a receiving set from this informationsince it becomes possible to grasp more CM viewing-and-listening result of a user of a receiving set in details -- subscription fee gold -- more -- texture -- it becomes possible to set up densely. For examplewhen it views and listens to CM of a specific genrewhat sets up a charge at a low price becomes possible rather than a case where it views and listens to other CMs.
[0137]Nexta fourth embodiment of this invention is described.
[0138]This embodiment enables it to presume charge discount by CM reception in a receiving set.
[0139]Drawing 13 is the outline configuration block figure of digital broadcasting receiving set 2b where a fourth embodiment of this invention was applied. In drawing 13the same mark is given to what has the same function as a digital broadcasting receiving set of a first embodiment shown in drawing 4.
[0140]Herealthough the case where this embodiment is applied to the receiving set of a first embodiment shown in drawing 4 is explainedin a second embodiment of this inventionit is applicable similarly.
[0141]The point that the digital broadcasting receiving set 2c of this embodiment differs from the digital broadcasting receiving set 2 of a first embodiment shown in drawing 4 is having formed the receiving discount estimating part 241as shown in drawing 13.
[0142]The receiving discount estimating part 241 presumes the receiving discount per unit time based on the genre of CM set up by the CM receiving pattern setting part 208display timingand CM display time. And an estimation result is displayed on the display screen of the monitoring device 3 via the image-source switch part 206. Heredrawing 14 shows the display example of the estimation result.
[0143]A broadcasting station and other control centers define how much subscription fee gold gives a discount per unit display time for every genre of CM. The receiving discount estimating part 241 becomes possible [presuming a receiving discount per unit time] by making the receiving discount estimating part 241 memorize this agreement based on contents set up by the CM receiving pattern setting part 208.
[0144]Nexta fifth embodiment of this invention is described.
[0145]In a case whereas for a broadcast receiving set of this embodimenta user changes an image source to a monitoring device from a broadcasting signal to

other image sources (image from a game machine or a personal computer)When a user returns an image source to a broadcasting signalit provides for a userwithout making information on the broadcasting signal concerned missing.
[0146]Drawing 15 is an outline block diagram of the broadcast receiving set 2d which is a fifth embodiment of this invention. Herethe same mark is given to what has the same function as a thing of a first embodiment shown in drawing 4.
[0147]The external input part 521 receives the video information from external instrumentssuch as a game machine and a personal computer. The broadcast receive section 252 receives the broadcasting signal of the program channel tuned in in the program tuning part 207. The user's operation input part 253 receives directionssuch as a channel selection of the channel of a broadcasting signaland a change of an image sourcefrom a user. The change condition-monitoring part 254 changes the output to the monitoring device 3 to either of the video information from a broadcasting signal and an external instrument according to change directions of the image source inputted into the user's operation input part 253. Other composition is the same as that of what is shown in drawing 4.
[0148]Nextoperation of the broadcast receiving set shown in drawing 15 is explained.
[0149]Drawing 16 is a flow chart for explaining operation of the broadcast receiving set 2d shown in drawing 15. This flow will be started if the video information of the broadcasting signal received in the broadcast receive section 252 will be in the state where it is outputted to the monitoring device 3. In this stateonce the broadcasting signal received in the broadcast receive section 252 will be memorized by the program Records Department 204will be read from thereand will be outputted to the monitoring device 3.
[0150]Firstthe change condition-monitoring part 254 waits to input change directions of an image source into the user's operation input part 253 (Step 1201).
[0151]If directions are inputtedthe change condition-monitoring part 254 will interrupt information read-out from the program broadcast record 204 (Step 1202).
[0152]Nextthe change condition-monitoring part 254 issues directions so that the video information outputted to the monitoring device 3 may be changed from the information recorded on the program broadcast Records Department 204 to the information received by the external input part 251 to the image-source switch part 206. This changes the video information displayed on the monitoring device 3 to the data of an external instrument from a broadcasting signal (Step 1203).
[0153]Thenthe change condition-monitoring part 254 waits to input change directions of an image source into the user's operation input part 253 (Step 1204).
[0154]If directions are inputtedthe change condition-monitoring part 254 will issue directions so that the video information outputted to the monitoring device 3 may be changed from the information received by the external input part 251 to the information recorded on the program broadcast Records Department 204 to the image-source switch part 206. This changes the video information displayed on the monitoring device 3 to a broadcasting signal from the data of an external instrument (Step 1205).

[0155]Thenthe change condition-monitoring part 254 resumes read-out of the information recorded on the program broadcast Records Department 204 from the address which interrupted read-out for Step 1202 (Step 1206).
[0156]Thusby resuming read-out from the address with which read-out was interruptedeven when it works with a personal computer etc. during program televisingthe contents of the program concerned can be prevented from being missing on the way. When new information is already written in the address with which read-out was interruptedit is made to resume read-out from the oldest information among the information recorded on the program broadcast Records Department 204. By doing in this waythe missing part of the contents of the program broadcast which should be displayed on the monitoring device 3 can be made small.
[0157]As mentioned abovethe time gap with actual program broadcast (program broadcast included in the digital broadcasting signal received in the receive section 252) and the program broadcast currently displayed on the monitoring device 3 can be adjusted using the Near technology on demand.
[0158]Nexta sixth embodiment of this invention is described.
[0159]The receiving set of this embodiment applies a first embodiment of this invention to networkssuch as the Internet. This receiving set is realized by the thing provided with the function which accesses networkssuch as the Internetfor examplethe personal computer provided with the modem etc.
[0160]The outline composition of the receiving set which is a sixth embodiment of this invention is shown in drawing 17.
[0161]The communications department for connecting 261 and 262 to networkssuch as the InternethereAs for an access point set part and 266the access information Records Department and 264 are [user's operation input partssuch as a keyboard and a mouseand 268] change condition-monitoring parts an access pattern set part and 267 an image-source switch part and 265 263.
[0162]The terminal areas 261 and 262 are connecting with a networkaccess the information (for examplehomepage) currently released on the networkand obtain the information concerned.
[0163]The access information Records Department 263 records the information acquired via the terminal area 261. What has ring buffer structure is used for this Records Department 263 like the program information Records Department 204 of a first embodiment which shows drawing 4.
[0164]The image-source switch part 264 changes video information outputted to the monitoring device 3 to either one of information recorded on the access information ** part 263and information acquired via the terminal area 262.
[0165]The access point set part 265 chooses information accessed via the connection 261 according to a user's directions inputted into the user's operation input part 267.
[0166]The access pattern set part 266 sets up a kind of prescribed information (for examplehomepage of CM) displayed on the monitoring device 3the display timing1 time of display time of the prescribed information concernedetc. according

to a user's directions inputted into the user's operation input part 267. Setting out of an access pattern to the prescribed information concerned is interactively performed via the monitoring device 3.
[0167]The change condition-monitoring part 268 takes out directions to the terminal area 262 so that information according to a kind set up by the access pattern set part 266 may be accessed. According to display timing and display time of information which were similarly set up by the access pattern set part 266change directions of video information outputted to the monitoring device 3 are outputted to the image-source switch part 264.
[0168]Nextit sets up about operation of a receiving set shown in drawing 17.
[0169]Herethe following contents should be set up by the access pattern set part 266.
[0170]** kind [of information which accesses]: -- address ** display timing [of a homepage which is performing CM]: -- 20-minute interval ** display time: -- this receiving set being connected to a network for 3 minutesandif a homepage through the terminal area 261 is accessedAfter video information of the homepage concerned is recorded on the access information Records Department 263it is read from there and is once outputted to the monitoring device 3 via the image-source switch part 264. The change condition-monitoring part 268 begins to integrate lapsed time after access by the terminal area 261 is started.
[0171]If this lapsed time reaches in 20 minutes set up as display timing by the access pattern set part 266the change condition-monitoring part 268 will stop information read-out from the access information Records Department 263 first. Nextdirections are issued so that it may change to video information outputted to the monitoring device 3 to the image-source switch part 264. And directions are issued so that an address of a homepage of CM set up by the access pattern set part 266 may be accessed to the terminal area 262.
[0172]Therebythe information displayed on the monitoring device 3 changes from the information recorded on the access information Records Department 263 to the homepage of CM obtained via the terminal area 262.
[0173]Nextthe change condition-monitoring part 268 begins to integrate the lapsed time after access by the terminal area 262 is started.
[0174]If this lapsed time reaches in 3 minutes set up as display time by the access pattern set part 266the change condition-monitoring part 268 will issue directions so that it may change to the video information outputted to the monitoring device 3 to the image-source switch part 264 first. Nextread-out of the information currently recorded on the access information Records Department 263 is resumed in the last read-out from the address with which the read-out concerned was stopped. Therebythe homepage acquired via the terminal area 261 is displayed on the monitoring device 3.
[0175]The information (for examplehomepage of CM) set up beforehand can be seen to the timing set up beforehandlooking at arbitrary information on the Internet etc. by repeating the above-mentioned operation.
[0176]

[Effect of the Invention]As explained aboveaccording to this inventionthe information on the kind desired to the timing which a televiewer desires is acquirable.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is an outline block diagram of the digital-satellite-broadcasting system by which a first embodiment of this invention was applied.
[Drawing 2]It is a figure for two or more program channelstwo or more CM channelsand a control channel to explain the frequency-multiplexing-ized digital broadcasting signal.
[Drawing 3]It is a figure for explaining the structure of a contents-of-broadcast code.
[Drawing 4]It is an outline configuration block figure of the digital broadcasting receiving set 2 shown in drawing 1.
[Drawing 5]It is a figure showing an example of a user's operation input part.
[Drawing 6]It is a figure for explaining the interactive screen for setting up the display timing and display time of CM.
[Drawing 7]It is a figure for explaining the interactive screen for setting up the genre of CM to display.
[Drawing 8]It is a figure for explaining the interactive screen for setting up by what kind of pattern the genre of CM is chosen into 1 time of CM display time.
[Drawing 9]It is a flow chart showing operation of the digital broadcasting receiving set shown in drawing 4.
[Drawing 10]It is an outline configuration block figure of the digital broadcasting receiving set 2a used for a second embodiment of this invention.
[Drawing 11]It is a flow chart for explaining operation of the digital broadcasting signal receiving set 2a shown in drawing 10.
[Drawing 12]It is the outline configuration block figure of digital broadcasting receiving set 2b where a third embodiment of this invention was applied.
[Drawing 13]It is the outline configuration block figure of digital broadcasting receiving set 2b where a fourth embodiment of this invention was applied.
[Drawing 14]It is a figure showing the display example of the estimation result in digital broadcasting receiving set 2b shown in drawing 13.
[Drawing 15]It is an outline configuration block figure which is the broadcast receiving set 2d with which a fifth embodiment of this invention was applied.
[Drawing 16]It is a flow chart for explaining operation of the broadcast receiving set 2d shown in drawing 15.
[Drawing 17]It is an outline configuration block figure of the receiving set with which a sixth embodiment of this invention was applied.
[Explanations of letters or numerals]
1 Broadcasting station

22a–2e Receiving set
3 Monitoring device
4 Satellite
201 and 252 Receive section
202 Program channel separation and a decoding section
203 CM channel separation and a decoding section
204 Program broadcast Records Department
205 Control channel separation part
206a 264 image-source switch part
207 Program tuning part
208 CM receiving pattern setting part
209253a 267 user's-operation input part
210254a 268 change condition-monitoring part
221 Image compositing section
222 Synthetic condition-monitoring part
232 Viewing-and-listening result output part
231 CM viewing-and-listening result Records Department
241 Receiving discount estimating part
251 External input part
261 and 262 Terminal area
263 Access information Records Department
265 Access point set part
266 Access pattern set part